

## **Technical Requirements**

### ***WBS 2.1.3 – Outfitting***

Date: 11/03/005

Revision Date:

#### Introduction

The Outfitting portion of the project includes the systems unique to the assembly and operation of the detector components.

#### Requirements

The following requirements have been identified.

1. Outfitting requirements during the Assembly phase include:
  - a. Lighting of sufficient foot-candle illumination.
  - b. Ventilation system to accommodate epoxy fumes.
  
2. Outfitting requirements during the Operations phase include:
  - a. Detector Enclosure chilled water system:
    - i. Criteria:
      1. 50 degree F +/- 5 degree F water
      2. Normal cleanliness
      - 3.
    - ii. System components include:
      1. Chiller,
      2. Pumps,
      3. Piping mains the length of the enclosure
      4. Valves at 64 points for connection to experiment equipment
    - iii. Testing and Balance
    - iv. Ability to commission the detector in 1/3s.
  - b. Detector Enclosure HVAC system:
    - i. Criteria:
      1. 68 degrees F +/- 5 degrees F
      2. 55 degree F dew point.
      3. Maximum occupancy of 10 people
  - c. Electrical System:
    - i. Criteria:
      1. Power for Front End Electronic Boxes: 11.2 watts per module
      2. Electronic power separate from conventional power
      3. Electrical power and distribution for block raiser
    - ii. System Components include:
      1. Panelboards,
      2. Conduits,
      3. Conductors,
      4. Breakers,
      5. Outlets
      6. Extend from panelboards installed during previous WBS.

- d. Scintillator Distribution
  - i. Criteria:
    - 1. ??
  - ii. System Components include:
    - 1. Piping Mains from Scintillator Pump Room to the Detector Enclosure.
- e. Block Raiser
  - i. Criteria:
    - 1. Weight
    - 2. Electrical requirements
    - 3. (coordinate with doc 113)
  - ii. System Components include:
    - 1. Embedded plates in Assembly Area.
    - 2. Embedded plates in Detector Enclosure.
- f. Shielding Wall
  - i. Criteria:
    - 1. 10 foot of earth equivalent shielding
    - 2. Installed upon completion of detector
    - 3. Personnel access from Assembly Area to Detector Enclosure
  - ii. System Components include:
    - 1. ??